

ABSTRACT

Provided are an apparatus and a method for measuring gas transmission rates and nanoleaks of deformable and brittle materials. The apparatus includes a test chamber having an upper and lower diffusion cells that when closed form a chamber wall seal, a gas inlet and a gas outlet in fluid communication with the lower diffusion cell, the upper diffusion cell being fluidly connected to a high-vacuum mass spectrometer. The method of measuring gas transmission rates and nanoleaks includes placing a sealed package containing the test gas in the lower diffusion cell, closing the upper and lower diffusion cells, flushing the lower diffusion cell with a source of a second gas other than the test gas, closing off the source of the second gas; and measuring the leak rate of the sealed package.